

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 3, OHIO VALLEY.

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GENERAL SUMMARY.

The chief features of the weather conditions during July, 1912, in the Ohio Valley were the unusual rains, remarkable both in frequency and in the amount of precipitation, and the absence of any extremely hot weather. Showers, more or less general and heavy, occurred nearly every day, and while they were beneficial and greatly advanced the growth of vegetation they also interfered considerably, particularly in the early part of the month, with cultivation and harvesting of crops, besides occasioning considerable damage, especially to wheat in shock. The monthly rainfall was exceedingly variable, not only for the district as a whole, but over the several sections of the States composing the district. Thunderstorms were frequent and in many cases considerable local damage was caused by wind, lightning, and hail attending them. The most serious damage of the month resulted from the excessive rains over the Monongahela and Cheat River Basins in Pennsylvania and West Virginia about the 24th and 25th, when a number of lives were lost and much property destroyed.

There were no great extremes of temperature, but during much of the month atmospheric conditions were sultry and oppressive with high humidity, and consequently there was much discomfort and suffering, particularly in the larger cities.

High-pressure areas largely dominated the weather conditions over the district through the month. Only a few shallow barometric depressions drifted eastward, their paths lying north of the district. The most important of these occurred in the periods 13th-15th, 20th-21st, and 28th-29th.

The following table summarizes the chief features of meteorological interest for the several sections of the district:

Portions of States included in the Ohio River Basin.	Temperature.				Precipitation.							
	Average.	Depart.	Highest.	Lowest.	Average.	Depart.	Greatest monthly.	Last monthly.	Greatest in 24 hours.	Average number of days.	Average snowfall.	
New York.....	67.8	+ 0.8	94	32	4.15	+ 1.49	6.31	2.61	2.29	14	0	
Pennsylvania.....	70.8	- 0.5	96	40	7.17	+ 2.19	12.65	3.16	4.10	12	0	
Maryland.....	67.2	0	91	43	9.44	+ 4.67	12.54	5.12	4.13	13	0	
West Virginia.....	73.2	0	99	45	7.56	+ 2.82	15.22	2.67	4.50	13	0	
Ohio.....	73.8	0	101	42	5.73	+ 1.52	9.66	1.90	3.74	11	0	
Indiana.....	75.5	+ 0.1	100	49	5.08	+ 1.18	8.92	1.64	4.82	12	0	
Illinois.....	76.6	- 0.1	98	49	5.73	+ 1.98	9.53	2.50	5.33	11	0	
Kentucky.....	76.8	0	100	53	5.50	+ 1.31	8.84	1.84	4.25	12	0	
Tennessee.....	76.8	- 0.1	99	47	6.10	+ 1.33	10.50	2.82	3.38	12	0	
Alabama.....	78.6	- 0.6	98	56	4.99	+ 0.03	7.00	3.44	3.68	13	0	
Georgia.....	73.2	- 1.1	88	55	7.25	+ 0.70	—	—	1.30	20	0	
North Carolina.....	70.2	- 0.4	93	46	7.05	+ 1.73	17.78	3.40	3.19	17	0	
Virginia.....	69.5	- 0.7	88	44	4.88	+ 0.23	7.43	3.49	1.98	13	0	

TEMPERATURE.

The temperature averaged about normal in all parts of the district. There were no unusual extremes and the daily departures as a rule were small. Conditions varying not far from normal prevailed during the first 18 days, mean daily temperatures being slightly below normal during considerable of the period over the southern part of the district and slightly above normal over northeastern sections. Unseasonably cool weather prevailed on the 19th and 20th and from the 26th to the end of the month. On the 1st some unusually low temperatures were registered in the western portions of New York and Pennsylvania and in northeastern Ohio, freezing temperature being reached at Allegany, N. Y., and 40° at Brookville, Pa. Monthly minimum temperatures ranged between 44° and 60° as a rule in other sections and occurred during the other cool periods of the month.

The warmest weather as a rule occurred about the 14th-15th and 24th-25th. The highest temperature reached in the district was 101° at Haydensville, Ohio, on the 15th; also 100° was registered at two other stations in the district on the same day—one in Indiana and one in Kentucky. Other than these, maximum temperatures were in the 90's, except that 88° was the highest reached in northern Georgia and southwestern Virginia.

PRECIPITATION.

The average precipitation for the sections of 13 States comprised in this district ranged from practically normal for northern Georgia and southwestern Virginia to double the July normal for western Maryland, but rarely has any month of record exhibited such a variation in distribution of rainfall over these sections or such frequency in the occurrence of rain. There was really but one day on which showers did not occur either quite generally or else over considerable areas in each of the States. In all of the State sections, except western Maryland, although the rainfall generally was above normal and over much of the territory considerably above, there were limited areas where precipitation was deficient.

The rainfall at the various stations ranged between 1.64 inches at Forest Reserve, Ind., and 17.78 inches at Highlands, N. C. In each of the States there were stations and localities where from 5 to nearly 10 inches of rain were received during the month, and over large portions of the Monongahela and Cheat River Basins there were from 10 to 15 inches. The lightest rainfall as a rule occurred in the upper portions of the White and Wabash River Basins of Indiana, and in extreme southern Illinois and western Kentucky.

The heavy rains which fell over the southern portions of Indiana and Illinois and western Kentucky in the period 4th-7th caused floods in small rivers and creeks that overflowed bottom lands, ruining crops and doing many thousands of dollars damage to bridges, railroad tracks, wagon roads, and farm lands. Heavy hail attended some of the storms, doing considerable damage in many localities. On the 18th-19th heavy rains caused considerable damage to growing crops in river bottoms, and flooded small streams in West Virginia and western Pennsylvania.

Heavy rain on the 21st did vast damage in localities in Ohio, Indiana, and Kentucky. In Ohio many acres of wheat and oats were floated away by the high water in small streams. In Meade, Ballard, and Jefferson Counties Ky., excessive rains caused great damage to crops, roads, railroads, and bridges. In Meade County the heavy rains culminated in a regular cloudburst, and Otter Creek, in that county, became a raging torrent, sweeping away bridges, buildings, fences, and crops. The track and roadbed of the Louisville, Henderson & St. Louis Railway for 8 to 10 miles along the Ohio River were absolutely destroyed, also several large trestles and bridges were carried away. Traffic was entirely suspended over a large section of that road for a period of two weeks, due to landslides and the demolishing of the roadway by the storm. A passenger train which left Louisville at 9.20 p. m. on the Louisville, Henderson & St. Louis Railway was trapped on a trestle over Otter Creek by landslides in front and behind, and with the creek a raging torrent beneath them, a hundred or more persons aboard were held for nearly 12 hours before being rescued. Camping parties on Otter Creek had harrowing experiences and narrow escapes from drowning. The water rose so rapidly they were not able to get out of the locality and took refuge on the tops of wagons, where they were marooned for 15 hours. The town of Brandenberg suffered severely; stores and houses were flooded, besides extensive landslides did great damage. There was also much damage at West Point and other localities in that section, and the Lincoln Way suffered severely, many culverts and much of the roadway being washed out.

Excessive rains fell on the 24th-25th over considerable areas in the upper Ohio River Basin, and especially over the headwaters of several of the main tributaries. Floods were produced in the Youghiogheny and Monongahela Rivers and considerable property loss followed. The greater damage, however, resulted from the overflowing creeks and tributary small streams in Allegheny, Westmoreland, and Fayette Counties, Pa., where bridges were washed away and farm lands, mines, and small towns were flooded. Fourteen men were drowned in one and three in another of the mines of the Superba Coal Co., near Uniontown, Pa. In West Virginia, especially in the Monongahela and Cheat River Basins, roads were destroyed, bridges washed away, and crops ruined. In Ohio a great deal of damage similar in nature was done. In Lawrence County, between 75 and 100 bridges were wrecked or badly damaged, and the cost of repairs to roads and bridges in that county alone is estimated at \$50,000.

Excessive 24-hour rainfalls were unusually numerous, and occurred in various parts of the district as shown in Table 2, Daily precipitation. The following are selected as exceptionally heavy: July 4, 5.53 inches at Flora and 4.50 inches at Fairfield, Ill.; 4.25 inches at Owensboro, Ky.; 3.50 inches at Huntington and 3.55 inches at Mount Vernon, Ind. July 7, 3.68 inches at Decatur, Ala. July 11, 3.03 inches at Highlands and 3 inches at Blantyre, N. C. July 13, 4.73 inches at Veedersburg, Ind.; 3.38

inches at Erasmus, and 3.25 inches at Palmetto, Tenn. July 17, 4.82 inches at Greensburg, Ind. July 18, 4.10 inches at Clarion, Pa. July 21, 3.49 inches at Hillsboro, 3.40 inches at Millport, and 3.74 inches at Wooster, Ohio. July 24, 3.10 inches at Clarington, Ohio; 3.92 inches at Elkins and 4.50 inches at Parsons, W. Va.; 4.13 inches at Deer Park and 4 inches at Oakland, Md., and 3.25 inches at California, Pa.

There were also some remarkably heavy falls in short periods, as 2.98 inches at Ironton in 2½ hours, and 3.10 inches at Clarington, Ohio, in less than one hour on the 24th; 1.04 inches in 15 minutes on the 2d and 2.15 inches in 60 minutes on the 9th at Indianapolis, Ind.

MISCELLANEOUS.

July 3.—Two churches were struck by lightning and a woman seriously injured at Columbus, Ohio.

July 4.—Two barns were struck by lightning and totally destroyed with their contents of hay and unthrashed wheat in Knox County, Ohio. A barn was destroyed by lightning in Sumner County, Tenn., and a number of head of stock killed in Todd County, Ky.

July 5.—A cloudburst caused great damage in Christian County, Ky. Three men were killed by lightning in Dickson County, Tenn.

July 7.—Heavy rains caused extensive damage to roads, railroads, and bridges along West Fork River in Tennessee; also several head of cattle were killed by lightning in Trousdale County of that State.

July 8.—Considerable damage was done by a wind, hail, and rain storm at Louisville, Ky.

July 9.—Lightning caused considerable damage in Indianapolis and several other places in Indiana. At Amboy, Ind., one man was killed and a companion injured.

July 10.—Two fatalities from lightning occurred at Pittsburgh, Pa.

July 11.—Two cows were killed by lightning and much damage was done to land and crops by a storm in Athens County, Ohio.

July 12.—Two boys were killed by lightning near Cadiz, Ky., and considerable damage was done in Fayette County, Ky., by a severe windstorm. The storm was especially destructive at Elmendorff Farm near Lexington, when a silo was blown down and many large trees prostrated.

July 13.—A severe wind and rainstorm swept over a large area in Indiana and Illinois, and extensive damage was done by wind, lightning, and floods of water in a number of counties in those States. A farmer was killed by lightning in Warren County, Ind., and two persons severely stunned in Westville, Ill.

July 15.—Lightning killed one person near Terre Haute, Ind., and caused the destruction of considerable property in Jennings and Rush Counties of that State.

July 16.—A farmer and two horses were killed by lightning near Richmond, Ky.

July 17.—Considerable loss resulted from lightning and wind in Perry, Stark, and Wayne Counties, Ohio.

July 18.—Wind and lightning caused considerable damage in Stark County, Ohio. A cloudburst in Montgomery County, Ky., flooded creeks and small streams, drowning thousands of chickens and turkeys, washing away much wheat and hay in lowlands, badly washing the tobacco crop on hillsides, and damaging roads. One man was drowned in the flood of a small stream.

July 21.—A severe thunderstorm did \$25,000 damage in Louisville, Ky.; also thunderstorms caused \$15,000

damage at Fort Wayne, Ind., when the gas plant was struck by lightning.

July 29.—Three deaths resulted from lightning at Saltsburg, Pa., when an oak tree under which the victims had taken shelter was struck.

July 31.—Sevier County, Tenn., was visited by an unusually severe hailstorm. The path of the storm was about 7 miles in width and extended in a southwest-northeast direction. Many of the hailstones were as large as goose eggs and ranged from that size down to the size of small marbles. The larger stones were irregular in shape and weighed as much as half a pound. Corn in the field was torn into shreds or beaten down flat. Fruit trees were riddled, and scarcely a house in the path of the storm escaped some damage.

A meteor of unusual size and brightness was seen by many persons in Louisville, Ky., about 9.48 p. m., July 8. It fell into the Ohio River, narrowly missing the Big Four bridge at that point. Observers describe it as moving from the western part of the heavens toward the eastern, cutting a semiarch, and leaving in its path varicolored tails. The lookout in the life-saving station, who had an excellent view of the meteor, states that it appeared to

him that the meteor passed within a few hundred feet of the station, and that the river was lighted up in all directions as if by millions of electric lights.

A brilliant meteor was also observed at North Vernon, Ind., about 75 miles north by east of Louisville, at about the same time.

RIVERS AND FLOODS.

A flood of considerable magnitude occurred in the Monongahela River and small tributaries from the excessive rains of the 24th-25th in western Pennsylvania and West Virginia. The loss to property and crops destroyed, damage to farm land, and suspension of business is estimated at over a half million of dollars in the two States, besides the loss of 17 lives.

In the streams generally, large and small, a good flow of water for July was maintained during the entire month. Streams were unusually high in practically the whole of the Appalachian section from Pennsylvania to North Carolina. Floodings from local rainstorms were remarkably frequent and extensive. The Ohio and Tennessee Rivers, and the Cumberland River from Celina, Tenn., down, were navigable during the entire month.

TABLE 1.—Climatological data for July, 1912. District No. 3, Ohio Valley.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
<i>New York.</i>																				
Allegany.....	Cattaraugus.....	1,441	6	68.0		94	8†	32	1	48	2.61	+ 1.49	0.50	0	14	5	17	9	nw.	Charles E. Whitney.
Bolivar.....	Allegany.....	1,800	18	67.6	+ 0.8	94	8†	33	1	48	6.31	+ 1.49	2.29	0	15	6	17	8	nw.	Charles F. Hoffman.
Olean.....	Cattaraugus.....	1,402	4							3.52		0.67	0	13					e.	John W. Alles.
<i>Pennsylvania.</i>																				
Aleppo.....	Green.....	1,135	11	72.2	+ 0.2	92	15	48	27	32	8.04	+ 2.95	2.45	0	9	14	5	12	sw.	J. S. Hinerman.
Beaver Dam.....	Beaver.....	674	18			91	8†	40	1	42	6.11	+ 2.09	2.27	0	13	10	3	18	sw.	U. S. Engineer.
Brookville.....	Jefferson.....	1,173	21	68.4							6.93	+ 1.94	2.48	0	11				w.	H. C. Bartholomew.
Clarion.....	Clarion.....	1,078	27			94	8†	49	27	34	8.45	+ 2.88	4.10	0	11	9	0	22	w.	J. A. Miller.
Claysville.....	Washington.....	1,127	8	73.4							8.95		1.92	0	13	11	16	4	w.	E. T. Buchanan.
Confluence.....	Somerset.....	1,352	28								8.20	+ 2.99	2.00	0	13	9	2	20	w.	Grant Pyle.
Franklin.....	Venango.....	955	38	71.2	0.0	96	10	48	1	34	5.11	+ 0.45	1.53	0	11	14	15	2	w.	F. E. Dixon.
Freeport.....	Armstrong.....	772	39								6.79	+ 2.28	2.30	0	13	12	5	14	-----	Mrs. Anna R. Burtner.
Greensburg.....	Green.....	708	23								8.56	+ 3.38	2.00	0	14	7	14	10	sw.	James G. Cramer.
Greenville.....	Mercer.....	950	16	69.9	- 0.6	94	15	46	27†	42	6.04	+ 0.90	1.41	0	13	9	8	4	nw.	A. M. Orr.
Indiana.....	Indiana.....	1,350	15	71.7	+ 1.2	93	8	48	28	32	8.75	+ 4.29	1.58	0	16	12	14	5	s.	R. W. Wehrle.
Johnstown.....	Cambria.....	1,184	24	71.9	- 1.4	94	14	50	26	34	8.82	+ 4.15	1.92	0	14	9	19	3	s.	E. C. Lorentz.
Lock No. 4.....	Washington.....	718	26								8.50	+ 3.78	2.50	0	11	3	13	15	s.	R. T. McGowan.
Lycippus.....	Westmoreland.....	1,420	20	70.2	- 2.5	87	7	54	28	22	8.50	+ 3.36	2.02	0	11					Murray Forbes.
Pittsburgh.....	Allegheny.....	842	42	73.2	- 1.4	91	15	55	19	22	6.61	+ 2.19	2.40	0	10	7	16	8	sw.	U. S. Weather Bureau.
Saegeertown.....	Crawford.....	1,116	21	68.6	- 0.4	90	15	44	27	35	3.16	- 1.37	0.80	0	13	5	14	12	nw.	J. G. Apple.
Skidmore.....	Lawrence.....	1,000	8	69.6							9.15		2.50	0	7	24	1	6	sw.	W. H. Stoner.
Somerset.....	Somerset.....	2,250	56	68.1	- 0.5	91	15	47	28	32	6.86	+ 1.95	1.55	0	16	0	26	5	sw.	W. M. Schrock.
Uniontown.....	Fayette.....	999	24	73.6	+ 0.5	92	8	54	23	29	8.19	+ 2.52	2.29	0	11	2	11	18	sw.	Wm. Hunt.
Warren.....	Warren.....	1,137	23	69.0	- 0.4	91	8†	45	20	36	4.04	- 1.35	0.84	0	10	11	0	20	sw.	Anna Simpson.
<i>Maryland.</i>																				
Deer Park.....	Garrett.....	2,457	18	66.2	- 0.6	88	15	43	28†	35	10.66	+ 5.66	4.13	0	14					S. P. Specht.
Grantsville.....	do.....	2,351	18	68.2	- 0.1	91	15	48	28	32	5.12	+ 0.21	1.95	0	9					J. S. Miller.
Oakland.....	do.....	2,461	12	67.2	+ 0.6	88	15	46	28	33	12.54	+ 8.13	4.00	0	17	6	17	8	w.	R. E. Weber.
<i>West Virginia.</i>																				
Bancroft.....	Putnam.....	574	10	76.1	+ 0.5	97	4†	57	21	34	6.39	+ 1.67	1.93	0	13	13	0	18	ne.	R. E. Dent.
Bekley.....	Raleigh.....	2,440	12	71.6	+ 0.2	96	16	45	20	37	5.42	+ 1.69	1.52	0	8	11	12	3	w.	John A. Ewart.
Bens Run.....	Pleasants.....	622	10	75.2	0	94	15	54	21	25	5.48	+ 0.93	1.65	0	12	23	6	2		J. D. Riggs.
Bluefield.....	Mercer.....	2,563	17	71.5	- 0.2	89	14	51	28	30	5.50	+ 1.27	1.20	0	15	7	18	6		Norfolk & Western Ry.
Buckhannon.....	Upshur.....	1,472	21	72.3	- 0.2	92	15	50	23	34	9.27	+ 4.06	2.32	0	14	21 ^a	7 ^a	2 ^a		H. A. Darnall.
Cairo.....	Ritchie.....	667	10	74.4 ^f	+ 0.2	93	9	55	20†	33 ^f	7.10	+ 3.09	3.50	0	14	2 ^f	18 ^f	5 ^f		Van A. Zevely.
Central Station.....	Doddridge.....	900	11	73.6	+ 1.5	93	15	52	30	32	7.53	+ 3.44	2.19	0	14	3	21	7	w.	G. W. Sherwood.
Charleston.....	Kanawha.....	598	24	76.4	+ 0.2	94	14†	59	28	33	6.15	+ 2.26	1.78	0	17	13	14	4	w.	R. C. Hewes.
Creston.....	Wirt.....	612	11	73.5	+ 1.2	93	15	55	28†	39	6.50	+ 2.91	1.87	0	15	8	10	13	sw.	J. M. Reed.
Cuba.....	Jackson.....	544	10																	C. T. Perry.
Doane.....	Wayne.....	6																		L. A. Smith.
Elkhorn.....	McDowell.....	1,933	19	71.2	- 0.9	89	14	50	29	32	8.21	+ 2.92	1.10	0	14	15	9	7	w.	J. J. Lincoln.
Elkins.....	Randolph.....	1,940	13	70.4	0	91	14	50	28	31	10.61	+ 5.97	3.97	0	19	4	17	10	s.	U. S. Weather Bureau.
Fairmont.....	Marion.....	879	18	76.2							5.89	+ 1.09	2.69	0	12	22	3	6		F. P. Hall.
Glenville.....	Gilmer.....	738	22	76.6	+ 2.2	97	15	57	20†	32	12.93	+ 7.85	3.27	0	15	13	8	10	sw.	Joe N. Craddock.
Grafton.....	Taylor.....	985	18	74.4	+ 1.5	96	14†	52	20	34	7.14	+ 2.18	2.15	0	16	13	9	7	w.	Joseph Gerken.
Green Sulphur Springs.....	Summers.....	1,600	16	72.0 ^b	- 0.5	90	14	52	28	31	4.00	+ 0.41	1.26	0	14	8 ^b	14 ^b	7 ^b	w.	Arthur George.
Hinton.....	do.....	1,400	21	75.1	+ 0.8	94	14	57	28†	31	9.98	- 0.61	1.00	0	14	16	2	13	sw.	J. B. Lavender, C. E. Ferguson.
Holcomb.....	Nicholas.....	1	70.0			91	17	48	28	34	7.88			0	14	12	2	17		R. E. Ferguson.
Huntington.....	Cabell.....	510	17	76.1	- 0.4	94	15	59	28	28	6.90	+ 2.51	2.24	0	16	12	8	11	w.	L. H. Hutchinson.
Lewisburg.....	Greenbrier.....	2,200	11	71.2	- 0.2	91	14	48	28	34	3.64	- 0.22	1.39	0	7	24	6	1	nw.	Geo. T. Argabrite.
Logan.....	Logan.....	605	10	75.8 ^b	+ 0.6	96	15	54	30	36	5.89	+ 1.09	2.69	0	12	22	3	6		Dr. J. E. McDonald.
Lost Creek.....	Harrison.....	1,033	15	71.3	- 1.4	93	15	48	30	32	5.97	+ 1.13	2.10	0	10	18	6	7	sw.	Allen Smith.
Madison.....	Boone.....	704	8	76.2 ^c	- 0.3	93	14†	59	28	32	6.52		1.98	0	12	3 ^c	20 ^c	1 ^c	w.	S. E. Bradley.
Mannington.....	Marion.....	967	11	72.6	- 0.2	93	15	53	20†	30	9.39	+ 4.49	3.26	0	14	19	2	10	w.	Jas. A. Morgan.
Marlinton.....	Pocahontas.....	2,169	19	69.4	0	90	16	48	28	34	2.67	- 2.61	0.60	0	12	12 ^a	15 ^a	3 ^a		C. J. McCarty.
Morgantown.....	Monongalia.....	1,250	36	74.1	+ 0.4	93	8†	54	30	30	11.17	+ 6.00	3.06	0	15	14	14	3	s.	Horace Atwood.
Moundsville.....	Marshall.....	640	10	75.4	+ 1.4	96	15	54	27	32	6.90	+ 2.43	1.88	0	12	13	7	11	sw.	M. L. Brown.
New Cumberland.....	Hancock.....	987	14	72.8	- 0.4	95	9	50	29	32	4.80	+ 0.29	2.60	0	6	9	13	9	s.	Frank S. Evans.
New Martinsville.....	Wetzel.....	634	18	76.4	+ 0.8	97	15	57	20†	30	5.63	+ 0.75	2.10	0	12	16	14	1	s.	Wm. Ankrum.
Nuttallburg.....	Fayette.....	2,252	18																	Miss Donna Tully.
Parkersburg.....	Wood.....	638	24	75.7	+ 0.1	94	15	59	30	25	8.07	+ 3.41	3.76	0	11	6	15	10	s.	U. S. Weather Bureau.
Parsons.....	Tucker.....	1,602	12	70.2	- 0.3	90	9†	46	19	32	14.02	+ 9.75	4.50	0	17	6	17	8	w.	J. W. Swisher.
Philippi.....	Barbour.....	1,1																		

TABLE 1.—Climatological data for July, 1912. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.								Precipitation, in inches.								Sky.				Prevailing wind direction.	Observers.						
				Mean.				Departure from the normal.				Highest, Date.				Lowest, Date.				Greatest daily range.				Total.				Departure from the normal.			
Ohio—Continued.																															
Camp Dennison.	Hamilton.	570	19	76.6	0.0	97	14	57	30	30	5.48	+ 1.88	1.66	0	11	13	17	1	sw.	Henry F. Pinkvoss.											
Canal Dover.	Tuscarawas.	884	19	73.2	+ 0.2	92	14	52	19	28	5.98	+ 1.31	2.14	0	9	12	25	4	sw.	Ed. S. Slingluff.											
Canton.	Stark.	1,089	29	72.6	+ 0.4	92	8†	50	19†	32	8.02	+ 3.25	2.50	0	15	15	5	11	sw.	Carl H. Meyer.											
Cardington.	Morrow.	1,010	17	73.6	+ 1.6	100	8	19	34	4.04	- 0.20	1.20	0	13	13	0	18	sw.	J. W. Shaw.												
Chillicothe.	Ross.	630	9	73.6							5.39		2.63	0	7																
Cincinnati.	Hamilton.	628	41	77.4	- 0.3	96	24	59	19	23	11.1	+ 1.57	2.56	0	12	4	20	7	se.	U. S. Weather Bureau.											
Circleville.	Pickaway.	694	24	75.6	+ 0.3	96	14	55	19	29	6.04	+ 2.10	1.65	0	13	7	13	11	s.	Dr. H. R. Clarke.											
Clarington.	Monroe.	600	9	73.2							5.24	3.00	3.10	0	13	2	16	13	sw.	Col. S. Tschappat.											
Columbus.	Franklin.	918	34	74.9	- 0.4	95	15	56	19	26	3.50	- 0.15	0.83	0	13	3	14	14	s.	U. S. Weather Bureau.											
Coshocton.	Coshocton.	770	3	73.6							5.90		1.01	0	19																
Dayton (1).	Montgomery.	839	74.9	- 1.1	94	24	56	19	25	3.35	+ 0.07	1.00	0	10	0	14	17	sw.	Mrs. Ada Jeffries.												
Dayton (2).	do.	790	31	75.4	- 0.8	96	24	54	19	28	4.82	+ 1.57	0.83	0	12				w.	U. S. Weather Bureau.											
Delaware.	Delaware.	896	15	74.6	+ 0.8	96	24	53	18	22	4.23	- 0.13	1.68	0	11	10	18	3	s.	Mrs. Edith E. L. Boyer.											
Demos.	Belmont.	1,325	24	74.2	+ 1.3	95	14†	54	19	29	5.58	+ 0.99	2.38	0	12	18	9	4	s.	De Witt H. Leas.											
Dennison.	Tuscarawas.	846	2	75.0							4.16		1.32	0	8	12	18	1	s.	J. T. Dysart.											
Frankfort.	Ross.	745	20	75.8	+ 1.2	96	14†	55	19	28	5.90	+ 2.68	1.75	0	12	16	7	8	s.	Water Supply Co.											
Gallipolis.	Gallia.	580									7.70		2.33	0	14																
Garrattsville.	Portage.	1,005	28	70.2	+ 0.3	90	7†	46	27	32	5.21	+ 1.27	2.08	0	15	5	19	7	nw.	S. M. Luther.											
Granville.	Licking.	960	30	74.2	+ 0.9	94	15	52	19	30	5.48	+ 1.63	1.16	0	12	15	3	13	sw.	Dr. L. E. Davis.											
Gratiot.	do.	1,000	23	72.9	+ 0.1	91	15	54	19	29	5.86	+ 1.10	1.64	0	12	1	24	1	s.	W. B. Longstreth.											
Green.	Adams.	500	19	76.2	+ 0.5	93	14†	58	19†	26	7.98	+ 3.62	1.95	0	14	10	21	0	sw.	W. F. Kenyon.											
Green Hill.	Columbiana.	1,135	19	69.8	- 0.9	89	8†	48	27	30	5.83	+ 1.47	3.33	0	9	6	23	2	s.	Jos. E. Bentley.											
Greenville.	Darke.	1,060	26	73.6	+ 0.1	92	24	56	19	27	5.06	+ 2.32	1.25	0	13	5	12	14	s.	Geo. A. Kutzenberger.											
Hamilton.	Butler.	601									1.90		0.62	0	10	8	12	11													
Haydenville.	Hocking.	700		74.9							5.30		1.64	0	10																
Hillsboro.	Highland.	1,063	33	75.4	+ 0.4	93	24	56	19	29	9.32	+ 5.18	3.49	0	10	6	17	8	sw.	H. W. Stiers.											
Ironton.	Lawrence.	575	29	77.0	+ 2.4	97	14	58	20	32	6.90	+ 2.69	2.98	0	12	15	1	se.	Carey H. Roush.												
Kenton.	Hardin.	1,015	20	73.7	+ 0.3	92	15	50	18	37†	5.40	+ 1.85	1.55	0	13	6	22	3	s.	James Bull.											
Killbuck.	Holmes.	1,087	19	72.2	- 0.7	90	5†	51	16	30	7.33	+ 2.75	2.25	0	10	21	7	3	s.	N. S. Martin.											
Lancaster.	Fairfield.	898	17	74.4	+ 1.2	92	15	55	19	25	4.27	- 0.13	1.10	0	13	15	10	6	sw.	Lloyd C. Schonauer.											
McConnellsburg.	Morgan.	710	28	74.0	+ 0.3	92	15	51	19	30	7.47	+ 3.12	2.48	0	11	4	13	14	s.	R. L. Renshaw.											
Marietta.	Washington.	627	92	76.4	+ 2.5	95	8	57	19†	28	5.98	+ 1.35	1.37	0	12	6	16	9	s.	C. H. Morris.											
Marion.	Marion.	980	34	75.0	+ 1.1	94	14	54	19	31	7.41	+ 3.03	1.30	0	13	20	9	sw.	Prof. T. D. Biscoe.												
Mifflinton.	Knox.	1,200	20	72.4	- 0.0	93	24	53	27	33	5.10	+ 0.96	1.03	0	11	16	12	3	sw.	Dr. E. H. Raffensperger.											
Milligan.	Perry.	875	19	73.6	+ 0.2	93	15†	52	27	30	8.72	+ 4.70	1.80	0	11	6	25	0	sw.	L. H. Burgess.											
Millport.	Columbiana.	1,145	19	70.7	- 0.7	90	8	52	28	39	6.35	+ 2.07	3.40	0	7	3	27	1	s.	V. C. Eveland.											
Nellie.	Coshocton.	850	12	72.8	- 0.4	93	24	50	27	38	7.49	+ 3.55	2.10	0	9	5	21	5	sw.	G. F. Copeland.											
New Alexandria.	Jefferson.	1,050	27	73.6	+ 0.4	94	15	56	20	33	6.21	+ 1.43	2.00	0	7	16	7	8	w.	Ethel L. Gammertsfelder.											
New Berlin.	Stark.	1,100	19	70.5	- 2.7	90	5†	50	19†	30	6.65	+ 1.38	2.05	0	13	17	11	3	s.	Mrs. Mary K. Pennell.											
New Waterford.	Columbiana.	1,053	17	70.8	- 0.8	91	7†	42	19	32	6.71	+ 2.03	2.25	0	7	16	12	3	sw.	Clayton Holl.											
O. S. University.	Franklin.	757	29	74.6	+ 1.1	94	15†	56	19	35	5.25	+ 1.21	2.21	0	12	6	16	9	s.	Sam. C. Scott.											
Pataskala.	Licking.	1,015	20	73.6	- 0.3	94	15	53	19	28	4.42	+ 0.30	1.40	0	13	0	30	1	sw.	Prof. H. C. Lord.											
Peebles.	Adams.	645	1	74.8							9.66		1.29	0	16	8	19	4	nw.	J. N. Ridenour.											
Philo.	Muskingum.	1,018	17	73.1	- 1.5	93	15	54	19†	25	3.07	- 1.57	0.84	0	8	4	24	3	s.	L. C. Bureckhofer.											
Piqua.	Miami.	847	2	73.6							7.01		2.29	0	16	4	11	2	sw.	Harry L. Roberts.											
Plattsburg.	Clark.	1,130	19	73.8	- 0.2	91	24	53	19	27	7.93	- 2.21	1.13	0	14	4	5	23	3	sw.	F. E. Stewart.										
Portsmouth.	Scioto.	527	81	76.6	- 0.1	94	14	60	19†	26	5.36	+ 1.33	1.40	0	15	7	4	20	sw.	Dr. H. A. Schirrmann.											
Prospect.	Marion.	909	2	73.6							4.67	+ 1.06	1.62	0	13	16	3	12													
Shenandoah.	Richland.	1,100	20	70.9	- 1.1	89	5†	50	31	29	6.65	+ 2.12	2.09	0	12	1	27	3	sw.	Neil J. Gast.											
Sidney.	Shelby.	985	29	73.7	- 1.3	95	24	52	19	29	5.65	+ 2.01	1.62	0	14	9	12	10	sw.	T. B. Arnett.											
Somerset.	Perry.	1,080	13	74.8	- 0.1	93	8†	54	19	28	4.40	+ 0.39	0.87	0	13	14	13	4	s.	Hamline H. Blake.											
Springfield.	Clark.	980	18								3.31	- 1.21	1.02	0	12	2	26	3	s.	Miss M. W. C. Sheridan.											
Summerfield.	Noble.	1,187	6	73.3							7.35		2.00	0	13	7	18	6	sw.	W. A. Webster.											
Syracuse.	Meigs.	583	1	75.0							8.97		2.10	0	12	14	5	12	w.	H. R. McClintock.											
Thurman.	Gallia.	696	19	74.6	- 1.5	92	15	56	19	24	6.60	+ 2.92	1.90	0	9	8	14	9	s.	Irving R. Karr.											
Urbana.	Champaign.	1,031	44	74.2	+ 0.8	96	24	52	19	29	4.48	+ 0.93	0.93	0	9	7	23	1	s.	D. D. Thomas.											
Warren.	Trumbull.	900	23	72.7	+ 0.3	95	7	48	27	34	6.71	+ 2.34	2.78	0	9	14	6	11	sw.	Prof. J. H. Williams.											
Waverly.	Pike.	590	29	74.8	- 1.0	92	24	58	19†	28	2.93	+ 5.45	2.26	0	15	6	3	22	s.	M. D. McCorkle.											
Waynesville.	Warren.	700	27	73.8	- 0.1	92†	24	55	19	27	4.53	+ 2.04	2.40	0	10	8	19	4	w.	Dr. Peru Hutt.											
Wooster.	Wayne.	1,030	33	71.6	+ 0.2	90	14†																								

TABLE 1.—Climatological data for July, 1912. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.			Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.			Greatest in 24 hours.	Total snowfall, unmeted.					
					Highest.	Date.	Greatest daily range.					Total.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.						
<i>Indiana—Continued.</i>																					
Mauzy.	Rush.	980	32	73.8	+ 0.3	92	15†	53	19†	30	4.10	+ 0.36	1.00	0	13	6	15	10	sw.	Elwood Kirkwood.	
Monticello.	White.	674	2								4.90		2.12	0	8	11	11	9	s.	J. E. Loughry.	
Moore's Hill.	Dearborn.	980	11	75.4	+ 0.5	93	14†	56	19	28	3.74	+ 0.84	1.20	0	10	14	9	8	sw.	W. S. Bigney.	
Mount Vernon.	Posey.	410	26	78.4	- 0.2	95	15†	61	31	29	7.66	+ 3.35	3.55	0	11	19	1	11	sw.	Guy B. Green.	
Nashville.	Brown.	75.0									5.45	16	32	6.18	0	11	8	13	10	s.	W. C. Goble.
Pooli.	Orange.	611	15	77.1	+ 0.4	95	15	57	20†	34	4.01	+ 0.60	1.12	0	14	6	23	3	sw.	James A. Gillum.	
Princeton.	Gibson.	481	30	78.4	+ 1.3	95	15†	59	27	33	4.37	+ 0.98	1.70	0	8	15	8	8	sw.	Albert Mills.	
Richmond.	Wayne.	972	27	73.5	- 0.3	94	15	53	30	28	3.01	- 0.66	0.82	0	15	3	25	3	sw.	Walter Vossler.	
Rochester.	Fulton.	775	7	75.0		93	5	53	27	28	4.14		2.25	0	8	12	9	10	sw.	G. P. Keith.	
Rockville.	Parke.	722	26	75.3	+ 0.6	97	24	54	27	32	5.79	+ 2.06	2.01	0	7	3	24	4	s.	C. A. Lee.	
Rome.	Perry.	370	9	77.8		100	15	61	20†	34	6.29		2.59	0	11	19	4	8	sw.	Adam Anspach.	
Salmonia.	Jay.	950	7	73.0		92	24	53	19†	29	7.44		1.40	0	17	10	17	4	sw.	S. A. Armstrong.	
Salem.	Washington.	717	19	76.2	- 0.5	95	14	57	30	33	3.71	+ 0.34	1.00	0	13	3	25	3	sw.	Emmet S. Allen.	
Scottsburg.	Scott.	570	18	77.4	- 0.2	95*	14†	60*	24†	35*	2.67	- 1.08	0.84	0	6	17	2	2	sw.	Frank H. Park.	
Seymour.	Jackson.	610	25	77.6	+ 1.5	97	15	56	19	34	7.74	- 0.90	1.40	0	12	5	25	1	sw.	J. Robt. Blair.	
Shelbyville.	Shelby.	768	8	75.6		92	24	56	19	27	6.11		2.29	0	16	4	25	2	sw.	Edgar G. Hodson.	
Shoals.	Martin.	523	5								8.87		2.20	0	11						Rev. G. Halleck Rowe.
Terre Haute.	Vigo.	498	22	76.2	- 1.2	96	13	57	19†	25	7.29	+ 3.93	2.48	0	12	11	9	11	sw.	Prof. R. G. Gillum.	
Wheelersburg.	Fountain.	612	13	75.2	+ 0.2	96	24	55	19†	29	8.19	+ 4.72	4.73	0	12	21	9	1	s.	L. A. Culver, Jr.	
Vevay.	Switzerland.	525	31	78.9	+ 1.7	98	24	63	19	25	4.16	+ 0.05	1.30	0	14	3	19	11	se.	Miss Frederica Boerner.	
Vincennes.	Knox.	431	20	77.8	- 0.3	98	15	60	27	29	5.23	+ 0.88	2.30	0	8	15	5	11	s.	Garrett V. List.	
Washington.	Davies.	454	16	76.8	- 0.2	95	15	59	27	28	5.99	+ 2.07	2.18	0	16	12	12	7	sw.	Charles C. Feagans.	
Whitestown.	Boone.	529	4	74.1		95	15	58	19†	29	4.78		0.72	0	16	2	28	1	sw.	Clyde O. Laughner.	
Winona Lake.	Kosciusko.	865	5	73.0		91	6†	51	19	29	5.82		2.14	0	11	1	27	3	nw.	Rev. Albert A. Young.	
Worthington.	Greene.	526	30	76.2	+ 1.0	95	15	58	27	26	6.39	+ 2.35	1.60	0	16	7	20	4	se.	D. W. Solliday.	
<i>Illinois.</i>																					
Albion.	Edwards.	531	21	78.8	+ 0.6	98	14	60	20†	33	5.21	+ 1.19	1.11	0	12	12	15	4	s.	B. F. Michels.	
Carmi.	White.	399	1								6.86		1.56	0	14	13	13	5		Daniel Berry.	
Casey.	Clark.	645	9								6.36	+ 2.38	2.25	0	7	19	5			William Chernoweth.	
Charleston.	Coles.	720	27	75.8	- 0.5	95	24	55	27	28	5.10	+ 1.98	1.31	0	11	15	9	7	se.	Jacob B. Daisy.	
Danville.	Vermilion.	604	11	75.5	- 0.8	96	24	55	27	30	5.93	+ 1.15	1.75	0	13	16	15	10	s.	J. J. Lemon.	
Equality.	Galatin.	421	14	78.3	+ 0.6	96	15†	62	27	26	9.93	+ 1.15	1.30	0	13	16	15	10	sw.	Dr. L. W. Gordon.	
Fairfield.	Wayne.	450	19	78.4	+ 0.7	96	14†	59	27	30	7.41	+ 3.53	4.50	0	14	9	18	4	nw.	George A. Tromly.	
Flora.	Clay.	495	26	78.0	+ 1.4	95	15†	59	27	31	9.53	+ 4.94	5.33	0	13	10	8	8	sw.	W. L. Hanna.	
Golconda.	Pope.	500	34	80.0	+ 1.4	96	14†	62	28	32	7.14	+ 3.38	2.08	0	6	5	14	12	sw.	Dr. D. Lawrence.	
Hooperston.	Vermilion.	715	10	73.4	- 0.4	90	9†	55*	18†	27*	6.62	+ 2.24	2.32	0	14	17	12	2	sw.	S. F. Hoskinson.	
McLeansboro.	Hamilton.	462	29	78.5	+ 0.8	97	14	61	27	32	6.76	+ 3.47	2.56	0	13	13	13	5	sw.	Prof. W. C. Fairweather.	
Metropolis.	Massac.	346	1								2.50		0.90	0	7						John Barfield.
Montrose.	Effingham.	599	2	76.6		94	15	57	19	29	8.65		2.41	0	14	6	23	2	sw.	J. C. Spitler.	
Mount Carmel.	Wabash.	424	11	75.1	- 1.7	95	14†	60	27	28	4.28	+ 1.05	2.50	0	11						Mrs. H. M. Phillips.
New Burnside.	Johnson.	613	17	77.8	- 0.9	96	24	57	27	31	3.14	- 1.29	1.35	0	8	21	2	8	s.	Thos. H. McCabe.	
Newton.	Jasper.	484	1								4.65		0.85	0	13	17	13	1		J. M. Hicks.	
Oinely.	Richland.	436	25	78.4	+ 0.6	96	14†	58	27	32	4.64	+ 0.87	1.63	0	11	2	19	10	sw.	Victor E. Phillips.	
Palestine.	Crawford.	500	30	76.8	+ 0.4	94	15	60	19†	26	6.83	+ 2.90	1.60	0	10	15	11	5	s.	Duane Shaw.	
Paris.	Edgar.	600	19	74.4	- 1.4	94	24	54	27	32	8.56	+ 5.05	2.05	0	10	3	25	3	sw.	H. P. Twyman.	
Philo.	Champaign.	700	28	74.4	- 0.2	96	24	54	27	31	3.24	- 0.58	1.12	0	7	10	19	2	sw.	H. A. Burr.	
Rantoul.	Champaign.	768	21	73.2	- 2.3	93	24	49	19†	35	5.40	+ 1.56	2.23	0	12	16	6	9	ne.	William Breiner.	
Rileyville.	Saline.	400	15								3.67		1.20	0	11						W. H. Thornberry.
Shawneetown.	Gallatin.	307	2																	Mrs. Mary O. Spivey.	
Tuscola.	Douglas.	644	19																	Joseph O'Neal.	
Urbana.	Champaign.	725	10	74.2	+ 0.5	94	24	55*	27	26*	3.68	- 0.10	1.62	0	9	3	21	7	s.	Prof. J. G. Mosier.	
<i>Kentucky.</i>																					
Alpha.	Clinton.	18	75.0	- 1.6	88	14†	59	27	22	3.35	- 2.64	0.60	0	12	9	7	15	s.	W. W. Hicks.		
Anchorage.	Jefferson.	700	11	75.2	- 0.9	94	14	58	27†	31	5.68	+ 0.88	1.92	0	13	12*	16*	2*	sw.	C. E. Barrett.	
Bardstown.	Nelson.	637	15	78.3	+ 0.1	97	15	60	28	31	5.47	+ 0.48	1.43	0	13	14	12	5	s.	T. S. Talbott.	
Beattyville.	Lee.	650	8	75.8		97	14	56	28	32	5.72	+ 0.32	1.52	0	13	7	10	14	e.	G. W. Cann.	
Beaver Dam.	Ohio.	441	9	78.4	+ 1.2	95	15†	60	27	29	5.40	+ 0.35	1.25	0	10	6	15	10	s.	W. T. Austin.	
Berea.	Madison.	1,070	11	76.6	+ 0.4	95	15	54	28	33	4.35	- 0.40	1.32	0	15	18	11	2	sw.	C. F. Rumold.	
Blandville.	Ballard.	445	31	78.0	+ 0.1	93	15	64	27†	35	1.84	- 2.05	1.09	0	8	9	17	5	s.	E. W. Horr.	
Bowling Green.	Warren.	500	23	78.0	- 1.0	97	15	61	27†	32	5.83	+ 1.49	2.00	0	8	15	5	11	n.	Mrs. L. G. Causey.	
Burnside.	Pulaski.	773	21								8.76	+ 3.83	1.82	0	14	5	24	2	sw.	G. M. Estes.	
Calhoun.	McLean.	397	9	78.6	+ 1.6	95	15	63	20†	28	5.52	+ 0.10	2.10	0	12	5	24	2	sw.	W. A. Taylor.	
Catlettsburg.	Boyd.	544	23	79.4	+ 1.5	98	15	59	27	35	3.95		1.14	0	10	20	3	8	nw.	Mrs. Mertie M. Bruns.	
Earlington.	Hopkins.	370	22	79.4	+ 1.5	98	15	59	27	35	3.95		1.14	0	10	19	7	14	10	sw.	Miss Lee Ray.
Edmonton.	Metcalfe.	600	21	76.2	+ 0.5	93	14†														

TABLE 1.—*Climatological data for July, 1912. District No. 3—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.							Precipitation, in inches.							Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of days.	Number of partly cloudy days.	Number of cloudy days.					
Kentucky—Continued.																							
Taylorsville.	Spencer.	489	10	76.4	+ 0.6	96	15	58	20†	33	4.14	- 0.70	1.76	0	14	8	12	11	sw.	E. D. Bourne.			
Williamsburg.	Whitley.	939	16	76.2	- 0.6	96	20	58	27	31	7.87	+ 1.67	2.20	0	16	1	14	8	e.	Noble C. Jones.			
Williamstown.	Grant.	943	10	76.0	+ 0.9	95	24	58	19	28	2.38	- 2.06	0.83	0	11	22	1	8	.....	Miss Rose Carter.		
Tennessee.																							
Ashwood.	Maury.	725	33	77.4	- 0.7	93	23	61	27	24	7.04	+ 2.60	1.55	0	12	4	11	16	s.	Mrs. Joseph W. Fleming.			
Benton.	Polk.	880	27	6	.....	.....	.....	.....	.....	.....	6.40	.....	1.33	0	12	15	0	16	w.	George L. Williams.
Bird's bridge.	Greene.	6	.....	.....	.....	.....	.....	.....	.....	.....	5.67	+ 0.68	1.04	0	15	11	8	12	e.	David B. George.
Bluff City.	Sullivan.	15	.....	.....	.....	.....	.....	.....	.....	.....	8.41	+ 2.86	1.98	0	11	5	15	11	s.	John W. Fisher.
Byrdstown.	Pickett.	1,026	19	77.1	+ 1.2	92	15	58	27	26	7.54	+ 3.15	2.05	0	17	11	6	14	se.	John Lacy.			
Carthage.	Smith.	500	28	78.2	+ 0.8	95	24	61	27	27	6.68	+ 1.32	2.02	0	13	16	12	3	s.	Earl C. Pickering.			
Cedar Hill.	Robertson.	625	12	78.7	- 0.2	99	14†	61	28	33	4.78	- 2.50	1.36	0	10	7	10	14	s.	J. Frank Rutin.			
Celina.	Clay.	494	9	.....	.....	.....	.....	.....	.....	.....	2.84	- 1.94	1.31	0	15	6	12	13	w.	Charles M. Anderson.
Charleston.	Bradley.	709	15	.....	.....	.....	.....	.....	.....	.....	5.81	+ 1.94	1.28	0	8	15	10	6	s.	U. S. Weather Bureau.
Chattanooga.	Hamilton.	808	33	77.2	- 0.6	93	25	64	31	25	2.87	- 1.08	0.75	0	11	13	6	12	s.	Prof. James A. Lyon.			
Clarksville.	Montgomery.	500	49	78.2	+ 0.9	94	14†	61	27	29	2.82	- 2.91	0.77	0	11	13	6	12	s.	Hugh Evans.			
Clinton.	Anderson.	800	24	.....	.....	.....	.....	.....	.....	.....	6.63	.....	1.51	0	18	13	14	4	.....	J. E. Converse.
Crossville.	Cumberland.	1,895	3	73.6	.....	89	14	54	27	29	4.60	.....	1.10	0	11	11	8	12	w.	James E. Swann.	
Dandridge.	Jefferson.	8	.....	.....	.....	.....	.....	.....	.....	.....	5.53	+ 0.46	1.20	0	15	14	16	1	sw.	J. Worth Lillard.
Decatur.	Meigs.	850	16	77.0	- 0.6	95	25	58	27	31	3.72	- 0.30	1.30	0	7	6	21	4	s.	Nathan R. Sugg.			
Dickson.	Dickson.	800	16	76.4	- 1.2	91	14†	60	27†	28	5.22	+ 1.90	1.28	0	8	13	14	4	s.	Asa M. Tippit.			
Dover.	Stewart.	500	17	77.8	- 0.6	95	15†	58	31	30	3.93	.....	3.03	0	13	4	24	3	.....	S. Bradford Boyd.	
Dunlap.	Sequatchie.	726	3	77.5	.....	94	14	.....	.....	.....	6.83	+ 2.15	1.74	0	19	11	1	19	e.	Charles Boyd.
Elizabethhton.	Carter.	1,575	22	.....	.....	.....	.....	.....	.....	.....	6.54	+ 0.67	3.38	0	18	8	17	6	se.	Mrs. Sarah E. Ashley.
Erasmus.	Cumberland.	1,850	15	72.0	- 0.2	91	14	47	27	36	3.84	- 0.76	0.88	0	11	11	4	16	s.	Erastus P. Bell.			
Florence.	Rutherford.	500	30	77.2	- 0.3	91	25	61	28	25	5.43	+ 1.16	2.10	0	13	10	13	8	s.	Young M. Rizer.			
Franklin.	Williamson.	648	22	76.9	- 0.4	91	23†	60	28	25	3.01	- 0.76	1.10	0	13	17	2	12	s.	Edward F. Wright.			
Halls Hill.	Rutherford.	10	.....	.....	.....	.....	.....	.....	.....	.....	7.26	.....	.....	0	10	10	10	11	.....	.....	
Harriman.	Roane.	841	17	.....	.....	.....	.....	.....	.....	.....	8.71	+ 3.96	3.10	0	12	11	17	3	s.	Mrs. Mary Lutzelman.
Hohenwald.	Lewis.	983	26	77.0	+ 0.5	95	25	58	28	31	3.19	- 0.81	0.95	0	10	.....	.....	.....	.....	.....
Iron City.	Lawrence.	600	15	77.7	0.0	96	25	58	27	31	7.60	.....	1.74	0	14	.....	.....	.....	.....	.....
Jefferson City.	Jefferson.	2	.....	.....	.....	.....	.....	.....	.....	.....	4.05	- 0.85	2.35	0	9	14	0	17	nw.	Ward Crosby.
Johnson City.	Washington.	1,620	1	75.6	+ 1.1	94	15	56	27	28	5.13	+ 0.13	1.24	0	15	27	4	0	sw.	Miss Sallie B. Mathews.			
Johnsonville.	Humphreys.	364	16	78.4	- 0.4	96	14	60	28	33	6.33	+ 2.20	1.15	0	11	9	13	9	s.	Henry Crumbliss.			
Kingston.	Roane.	21	.....	.....	.....	.....	.....	.....	.....	.....	4.05	- 0.85	2.35	0	9	14	0	17	s.	U. S. Weather Bureau.
Knoxville.	Knox.	977	41	77.2	+ 0.9	92	14	61	27	24	4.32	+ 0.11	1.62	0	14	4	20	7	sw.	H. Logan Fields.			
Lebanon.	Wilson.	522	3	77.4	.....	93	14	61	27†	28	6.84	.....	1.58	0	10	6	3	22	s.	Dr. Robert D. Crutcher.	
Lewisburg.	Marshall.	727	17	77.6	- 0.8	95	25	59	27†	32	6.36	+ 1.51	1.36	0	13	12	10	9	w.	Robert W. Clark.			
Loudon.	Loudon.	816	9	.....	.....	.....	.....	.....	.....	.....	3.84	- 1.82	1.63	0	10	10	10	11	.....	Col. James H. Burrow.
Lynville.	Giles.	770	24	77.5	+ 0.2	93	25	61	28	26	10.50	+ 5.24	1.61	0	11	4	25	2	sw.	Miss Alice L. Headrick.			
McGhee.	Monroe.	8	.....	.....	.....	.....	.....	.....	.....	.....	3.67	.....	1.30	0	10	23	1	7	s.	.....		
McMinnville.	Warren.	1,011	28	76.1	- 1.6	93	24	57	27	31	5.65	+ 0.66	1.90	0	7	9	11	11	e.	Mrs. Sam T. Broyles.			
Maryville.	Blount.	1,050	16	76.1	- 1.6	93	24	57	27	31	5.62	- 0.46	1.00	0	13	14	14	3	s.	Edward E. Barry.			
Mountain City.	Johnson.	2,436	15	70.4	+ 0.3	86	14	51	27†	30	5.37	+ 1.02	1.53	0	16	5	14	12	se.	U. S. Weather Bureau.			
Nashville.	Davidson.	654	41	77.8	- 1.6	93	14	64	28	25	5.37	+ 1.82	1.73	0	14	7	12	12	s.	Dr. Charles T. Burnett.			
Newport.	Cocke.	1,280	22	76.7	+ 0.2	91	24	60	27	22	6.55	.....	1.92	0	13	19	1	11	sw.	Burl W. Buttram.		
New River.	Scott.	1,215	5	.....	.....	.....	.....	.....	.....	.....	7.83	.....	1.65	0	12	13	13	5	sw.	Mrs. Ross Woods.
Palmetto.	Bedford.	770	19	77.0	- 1.2	94	25	59	27	30	9.33	+ 4.06	3.25	0	9	16	6	9	sw.	Oliver C. Kirksey.			
Perryville.	Decatur.	387	15	78.6	.....	96	23	64	27	30	8.16	+ 4.41	2.83	0	9	16	6	9	sw.	Miss Carrie Cash.		
Pinewood.	Hickman.	5	77.6 ^b	.....	96 ^b	25	59	27	30	.....	.....	.....	.....	.....	17	14	11	6	w.	Fred Beal.
Rogersville.	Hawkins.	1,150	27	76.0	+ 1.4	92	14	57	27	26	5.42	+ 0.52	2.76	0	17	14	11	6	sw.	Samuel G. Wilson.			
Rugby.	Morgan.	1,410	24	75.4	+ 1.4	96	14	53	28	35	8.15	+ 2.75	2.30	0	14	5	10	16	sw.	W. H. Carrington.			
Savannah.	Hardin.	442	28	79.2	+ 0.3	96	25	61	27†	31	4.70	+ 0.26	2.15	0	9	15	10	6	s.	Herbert O. Eckel.			
Sevierville.	Sevier.	6	76.2	.....	91	14	60	28	25	7.39	.....	1.44	0	14	1	8	22	sw.	University of the South.		
Sewanee.	Franklin.	2,000	16	73.8	- 1.0	88	24	61	1†	25	7.63	+ 2.49	1.65	0	10	6	4	21	sw.	Ernest H. Hull.			
Sparta.	White.	920	6	76.6	.....	92	14	57	27	30	3.61	.....	1.10	0	11	2	8	21	w.	Hudnall A. Boden.	
Springville.	Henry.	377	9	78.0	+ 0.5	95	15	59	27	31	6.47	+ 1.77	1.53	0	11	22	5	4	se.	J. Caloway Carr.			
Tazewell.	Claiborne.	1,350	15	75.2	.....	93	14	54	27	32	6.32	+ 1.97	1.36	0	16	11	4	16	s.	Reuben T. Moore.		
Tullahoma.	Coffee.	1,075	24	76.2	- 0.1	93	25	59	28	30	9.40	+ 4.74	2.15	0	12	7	17	7	sw.	John K. Roberts.			
Walling.	White.	909	9	.....	.....	.....	.....	.....	.....	.....	7.58	.....	2.00	0	20	5	8	18	sw.	Harry C. Boyd.
Waynesboro.	Wayne.	753	26	77.2	+ 0.6	95	25	57	28	30	4.64	+ 0.06	1.12	0	12	2	5	24	s.	William R. Wilson.			
Wildersville.	Henderson.	400	15	79.5	+ 1.9	96	23	62	28†	25	4.24	+ 0.07	1.70	0	7	15	10	6	s.	James G. Elizer.			
Worsham.	Summer.	550	11	.....	.....	.....	.....	.....	.....	.....	10.41	+ 6.67	1.84	0	12	12	9	10	e.	William P. Watson.
Yukon.	Lincoln.	850	15	75.8	- 2.5	92	25	61	27†	27	7.73	+ 3.41	2.13	0	14	5	24	2	w.	.....		
Alabama.																							
Bridgeport.	Jackson.	660	12	.....	.....	.....	.....	.....	.....	.....	3.44	- 1.79	1.63	0	13	.....	.....	.....	.....	.....
Decatur.	Morgan.	573	30	79.5	- 0.3	96	25†	63	28	29	7.00	+ 2.53	3.68	0	12	15	0	15	e.	R. L. Moore.			
Florence.	Lauderdale.	563	28	79.0	- 0.2	98	26	61	27†	30	5.65	+ 0.88	2.43	0	9	16	0	15	.....	Earnest A. Carriger.		
Guntersville.	Marshall.	550	2	78.8	.....	96	24	60	27	32	6.00	.....	2.70	0	17	.....	.....	.....	.....	.....
Madison.	Madison.	573	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Riverton.	Colbert.	360	15	77.6	- 1.2	96	25	56	28	36	3.63	- 0.33	1.08	0	11	15	3	13	s.	R. A. Patton.			
Scottsboro.	Jackson.	652	29	77.0	- 1.1	92	25	61	27	26	4.79	- 0.48	1.23	0	14	.....	.....	.....	.....	.....
Tuscumbia.	Colbert.	488																					

TABLE I.—*Climatological data for July, 1912. District No. 3—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
<i>North Carolina—Contd.</i>																				
Highlands.....	Macon.....	3,670	22	65.3	— 1.7	79	22†	47	27	26	17.78	+ 11.07	3.03	0	19	8	21	2	se.	T. G. Harbison.
Hot Springs.....	Madison.....	1,326	14	74.6	— 0.1	90	24	55	27	28	6.14	.....	1.45	0	14	17	12	2	e.	P. A. Garner.
Jefferson.....	Ashe.....	2,800	5	69.6	— 6.6	84	14†	51	28	31	7.82	.....	1.60	0	16	5	7	19	w.	Prof. E. J. Johnson.
Marshall.....	Madison.....	1,646	10	74.6	— 0.2	92	13†	54	31	33	3.50	— 0.59	1.36	0	12	7	12	12	w.	M. L. Church.
Murphy.....	Cherokee.....	1,614	36	.....	.....	.....	.....	.....	.....	.....	4.21	— 1.83	1.12	0	11	19	7	12	.....	Victoria Mingus.
Rock House.....	Macon.....	3,100	20	68.3	— 3.2	83	24	53	27	24	16.01	+ 7.64	3.19	0	19	7	12	12	s.	Harry C. Hawkins.
Transon.....	Ashe.....	2,600	.....	68.2	.....	83	13†	49	27†	30	3.40	.....	0.93	0	9	21	6	4	w.	S. M. Transou.
Waynesville.....	Haywood.....	2,756	18	71.4	+ 1.0	88	22†	50	27	33	3.55	— 1.28	0.68	0	20	11	10	10	sw.	Judge J. C. L. Gudger.
<i>Virginia.</i>																				
Blacksburg.....	Montgomery.....	2,170	21	70.4	— 0.5	86	14†	50	28	33	5.55	+ 0.73	1.55	0	14	7	12	12	nw.	Agr. Exp. Station.
Burkes Garden.....	Tazewell.....	3,250	17	66.0	— 1.2	83	14	44	28	33	7.43	+ 2.82	1.25	0	11	1	8	22	sw.	C. H. Grever.
Elk Knob.....	Lee.....	3,243	9	74.1	.....	88	14†	60	31	25	3.49	.....	0.64	0	17	10	19	2	se.	Henry Nicoll.
Ivanhoe **.....	Wythe.....	2,028	8	69.8	.....	82	18†	54	1	22	3.81	.....	0.86	0	9	14	13	4	w.	Miss Alice G. Jewett.
Max Meadows.....	do.....	2,028	16	71.0	+ 0.1	87	14	50	29	30	5.49	+ 1.29	0.92	0	10	14	15	2	sw.	James M. Graham.
Mendota.....	Washington.....	1,350	.....	.....	.....	.....	.....	.....	.....	.....	4.04	.....	0.65	0	16	.....	.....	.....	n.	Frank M. Barker.
Mountain Lake.....	Giles.....	4,348	2	65.0	.....	80	12†	47	27	25	5.39	.....	1.50	0	10	21	9	1	.....	H. E. Dorland.
Radford.....	Montgomery.....	1,773	3	.....	.....	.....	.....	.....	.....	.....	3.62	.....	0.90	0	11	.....	.....	.....	.....	Arthur Roberts.
Speers Ferry.....	Scott.....	1,221	16	.....	.....	.....	.....	.....	.....	.....	5.36	+ 0.43	1.98	0	15	.....	.....	.....	.....	Mrs. L. E. Venable.
Wytheville.....	Wythe.....	2,293	19	70.5	— 2.1	88	14	52	28	29	4.62	+ 0.18	0.89	0	19	12	16	3	w.	U. S. Weather Bureau.

*, b, *, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

** Temperature extremes are from observed readings of the dry bulb; means are computed from observed reading.

† Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 3, Ohio Valley.*

TABLE 2.—*Daily precipitation for July, 1912. District No. 3—Continued.*

TABLE 2.—*Daily precipitation for July, 1912. District No. 3—Continued.*

Stations.	Watershed.	Day of month.																														Total.								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
<i>Indiana—Contd.</i>																																								
Forest Reserve.	Ohio.	.08	.17	.06	.15	.50	.65	2.00	T.	.16	.40	.25	T.	.14	.20	.92	T.	.	.	.	.	.	.	.	.	.	.	.	.	.	.04	1.64			
Greenfield.	East Fork, White.	.20	.42	T.	.06	.15	.50	.65	2.00	T.	.16	.40	.25	T.	.14	.20	.92	T.	.	.	.	.	.	.	.	.	.	.	.	.05	.11	5.59			
Greensburg.	do.	1.00	.30	.10	.25	.70	.10	.20	.10	T.	.61	4.82	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	T.	8.18			
Hickory Hill.	West Fork, White.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Huntingburg.	Wabash.	1.20	3.50	.	.	.64	.50	.46	.	.	1.56	.10	.60	.	.40	.	.77	.	.55	.	.	.	.	.	.	.	.	.	.	.30	8.92				
Huntington.	do.	T.	.05	.	.	.05	.17	.10	T.	1.05	T.	.08	T.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3.64				
Indianapolis.	West Fork, White.	.33	1.42	.29	T.	T.	.23	1.9	2.49	.24	T.	.03	.01	.06	.01	.50	.	.40	T.	.	.	.	.	.	.	.	.	.	.	.15	.40	6.75			
Jeffersonville.	Ohio.	.08	.05	T.	.05	.06	.12	T.	.50	.03	.	1.42	.	.97	.01	.14	.45	.	.05	.79	.61	.01	.	.	.	.	.	.	.	.	.	.03	3.95		
Judyville.	Wabash.	.30	T.	1.09	.	.11	1.17	.10	T.	1.05	T.	.08	T.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.56				
Kokomo.	do.	T.	.10	.	.	.	.	.	T.	.73	1.53	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.15	5.33		
Lafayette ||.	do.	.03	.05	.19	.02	.	.98	.73	.	.09	.	.02	.30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.14	.39	4.22		
Laurel.	Whitewater.	.42	.12	.47	.	.25	.27	.	.07	.06	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.01	3.70		
Logansport ||.	Wabash.	.63	.20	.	.	.	1.75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.30	4.36	
Madison.	Ohio.	.37	1.91	.32	.	.02	.55	.03	.40	.	.	.90	.15	.23	.17	.	.64	.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.50	6.23	
Marengo.	do.	.17	* .85	*	.50	.22	.	.84	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.02	4.16
Marion ||.	Wabash.	.76	.03	.05	.28	.	.26	.26	.04	.30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.26	3.26
Maury.	East Fork, White.	1.00	.31	.02	.13	T.	.19	.73	T.	.60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.01	4.10
Monticello ||.	Wabash.	T.	.03	.	.	.04	2.12	.	.70	T.	.	T.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	T.	11.49
Moores Hill.	Ohio.	.12	T.	1.20	.45	.	.27	.	.12	1.07	T.	.10	.01	.05	1.00	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	T.	3.74		
Mount Vernon ||.	do.	.30	3.55	.60	.	.73	.90	.	.32	T.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.54	20.76	
Nashville.	East Fork, White.	.07	T.	.60	T.	T.	.05	.50	2.05	.03	.40	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.05	6.18	
Paoli.	do.	.14	.28	.73	.	.21	.66	.05	.05	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.26	4.01
Princeton.	Wabash.	.70	90	.70	.	.04	.39	.05	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.48	4.37
Richmond.	Whitewater.	.18	.15	.12	.04	.	.04	.23	.07	.70	.12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.53	3.01	
Rochester.	Wabash.	.02	.	.	.	.	2.25	T.	T.	T.	.	.51	.10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.23	5.14
Rockville.	do.	T.	T.	1.66	T.	T.	.30	.84	.33	T.	T.	.21	.01	T.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.14	5.79	
Rome.	Ohio.	.04	.04	1.50	.	.09	T.	.58	T.13	6.29				
Salamonie.	Wabash.	.18	.02	.11	.	.14	.06	.40	.33	.92	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.02	20.74
Salem.	Ohio.	T.	.13	.50	.	.37	.15	.53	.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.14	3.71
Scottsburg.	East Fork, White.	.84	T.	.18	.24	.	.11	T.27	2.67				
Seymour.	do.	.01	.30	.14	.16	.	.03	.12	.40	T.	T.	.0607	.01	T.	2.74			
Shelbyville.	do.	.05	.26	.32	.33	.	.05	.14	1.04	1.25	.0548	6.11			
Shoals ||.	do.	.	.	.31	2.02	T.	.75	.17	.27	.	.3445	8.87				
Terre Haute.	Wabash.	.35	.02	2.48	.	T.	.08	.38	.45	.49	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.18	.05
Veedersburg.	do.	.20	.05	1.22	.	.05	.60	.06	.06	.08	.	3.00	1.73	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.31	8.19	
Vevay.	Ohio.	.05	.25	.10	.25	.	.20	T.	T.	1.30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.50	4.16
Vincennes ||.	Wabash.	T.	.10	2.30	T.	T.	.10	T.	.3550	5.23				
Washington.	West Fork, White.	.13	.54	1.08	1.10	.01	.	.09	.04	.	.0623	5.99				
Whitestown ||.	do.	.03	.05	.46	.	.	.02	.72	.10	.63	.6928	.03	.11	4.78		
Winona Lake.	Wabash.	T.	.06	.84	1.11	.03	.06	.45	.15	T.	.0821	.08	5.82			
Worthington.	West Fork, White.	.08	.58	1.58	.	.07	.14	1.60	.	.05	.1404	.13	6.39			
<i>Illinois.</i>																																								
Albion.	Wabash.	.70	1.00	1.11	.	.58	.32	.	.5126	.08	5.21		
Carmi.	do.66	6.86
Casey.	do.	.74	.76	1.02	.38	.	.14	.28	.63	.15	.3573	6.36			
Charleston.	do.	.75	.32	.70	.2317	2.2576	.01	.06	5.10	
Danville.	do.	.10	1.31	.	.	.105510	.13	7.07		
Equality.	Ohio.	T.	.75	.03	.60	.30	.56	1.75	.12	.5648	0.03	4.74				
Fairfield.	Wabash.	.10	.09	1.8	.40	.06	.51	.08	.09	.27	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.19	1.93
Flora.	do.	.05	T.	5.33	.04	.03	.05	.06	.95	T.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.14	7.14
Golconda.	Ohio.	.35	.06	T.	2.08	T.7553	6.02				
Hooperston.	Wabash.	.07	.03	.45	.13	.	.09	.	.	77	2.32	.01	1.10	2.0	.</td																									

TABLE 2.—*Daily precipitation for July, 1912. District No. 3—Continued.*

Stations.	Watershed.	Day of month.																														Total.				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
Kentucky—Contd.																																				
Irvington.....	Ohio.....	T.	T.	T.	1.30	—	T.	T.	—	—	.73	T.	—	—	—	—	—	—	1.61	—	.94	T.	.63	.19	—	—	—	—	—	—	.07	5.47				
Leitchfield.....	Green.....	* .07	* .07	2.00	—	.12	.28	—	—	.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.79					
Lexington.....	Kentucky.....	.06	.01	1.05	.22	.02	—	T.	—	1.05	T.	—	—	—	—	—	—	—	1.63	.14	T.	.44	.05	—	T.	.03	—	T.	T.	T.	4.70					
Loretto.....	Salt.....	.38	.10	—	.41	.91	.02	1.3	—	—	.25	—	—	—	—	—	—	.29	—	1.09	T.	.10	1.74	.38	—	—	—	—	—	—	5.80					
Louisville.....	Ohio.....	.48	.07	T.	.10	.01	.03	T.	.64	T.	T.	—	1.33	—	.59	—	—	—	.08	—	.09	1.20	.02	—	—	—	—	—	—	—	4.68					
Marion.....	do.....	T.	T.	T.	.57	.20	.08	T.	T.	T.	.69	—	—	—	—	—	—	—	—	—	T.	—	.09	.28	—	—	—	—	—	—	—	2.24				
Maysville |||.....	do.....	.98	.54	.16	.08	.43	.03	.40	—	.29	.48	.76	T.	.39	—	—	—	—	—	—	26	T.	—	.28	.07	—	—	—	—	—	—	3.3 T.				
Middlesboro.....	Cumberland.....	.28	.02	.24	1.03	.02	—	—	—	—	.04	.52	—	—	—	—	—	—	.11	—	41	.02	—	.52	—	1.45	—	—	—	—	—	5.25				
Mount Sterling |||.....	Licking.....	.11	.68	.12	.04	—	.18	.28	—	—	—	1.90	.16	—	—	—	—	—	—	1.02	T.	—	22	1.66	—	1.33	—	—	—	—	—	8.84				
Owensboro |||.....	Ohio.....	.10	—	4.25	.43	T.	.62	.50	—	—	—	.04	—	—	—	—	—	—	—	T.	—	.13	.21	—	.04	—	—	—	—	—	6.62					
Paducah |||.....	do.....	.18	.18	.10	.60	—	.30	.30	—	—	—	1.30	—	—	—	—	—	—	—	—	—	—	—	.56	T.	T.	.06	—	—	1.20						
Pikeville |||.....	Big Sandy.....	.20	.25	.15	.30	.40	.15	—	—	—	.80	T.	—	—	—	—	—	—	.50	—	.15	.80	—	.10	.70	.05	—	—	—	T.	.10	.15				
Richmond |||.....	Kentucky.....	T.	.02	.15	.07	—	.03	.02	—	—	.17	.98	.01	.09	—	—	—	—	—	—	1.58	—	.20	.03	—	.26	—	—	—	—	—	3.64				
St. John |||.....	Salt.....	—	—	38	2.45	.40	.14	—	—	—	—	.38	—	—	—	—	—	—	—	—	15	T.	1.75	.30	—	—	—	—	—	—	—	7.43				
Scott.....	—	.20	.06	T.	.02	.14	.67	—	—	.31	—	.22	—	—	—	—	—	—	—	1.2	—	.25	.01	.20	—	T.	—	—	—	—	—	4.96				
Shelby City.....	Kentucky.....	T.	.71	.13	.24	.12	.34	.05	T.	1.25	1.03	T.	—	—	—	—	—	—	.74	—	.57	T.	.27	.47	.11	T.	—	—	—	—	—	6.80				
Shelbyville |||.....	Salt.....	—	—	.15	.1.80	—	—	—	—	—	.25	—	—	—	—	—	—	—	—	—	—	—	.15	—	—	—	—	—	—	—	—	4.05				
Taylorsville.....	—	.25	.03	.06	.14	T.	T.	.41	.07	.03	—	—	—	—	—	—	—	—	—	—	37	—	.49	.01	T.	1.76	.16	.27	—	.09	—					
Williamsburg |||.....	Cumberland.....	.25	.72	.10	.28	.60	.50	—	—	—	.46	.20	.68	—	—	—	—	—	—	20	2.20	.12	—	.80	.05	T.	—	T.	.55	.16	.78					
Williamstown.....	Licking.....	.09	.27	—	.06	.17	.04	.03	—	—	.03	—	.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.07	2.38				
Tennessee.																																				
Ashwood.....	Tennessee.....	.75	—	.08	.63	.18	.10	.15	.15	—	—	1.55	—	—	—	—	—	—	.55	T.	—	1.50	T.	—	—	1.25	—	—	—	—	—	.15	7.04			
Benton.....	do.....	.10	.69	—	1.33	.84	.04	—	.13	—	.26	—	—	—	—	—	—	.03	—	—	.85	—	.53	.40	—	1.20	—	—	—	—	—	—	6.40			
Birds Bridge |||.....	do.....	—	1.02	.01	1.04	.72	—	—	.11	.25	—	.07	.04	—	—	—	—	—	—	.70	—	.10	.30	—	—	—	—	—	—	—	—	.17	5.67			
Bluff City |||.....	Cumberland.....	.22	—	.83	1.43	.49	1.98	—	—	.45	—	—	—	—	—	—	—	—	—	.10	—	.20	.05	—	.08	T.	.67	.04	—	—	—	8.41				
Byrdstown.....	Carthage |||.....	.07	.65	.30	.38	.70	.25	1.60	.05	.01	.15	.40	.04	—	—	—	—	—	—	.60	—	.01	2.02	—	.08	T.	.67	.04	—	—	—	7.54			
Cedar Hill.....	do.....	.27	—	T.	.50	.65	.30	.17	T.	T.	.02	T.	—	—	—	—	—	—	.58	—	.12	.02	.12	.31	—	—	—	—	—	—	—	.02	12 T.	4.78		
Celina |||.....	do.....	.18	.12	T.	2.80	.98	1.79	—	—	.24	—	—	—	—	—	—	—	—	.05	—	.10	.14	.02	—	—	—	—	—	—	—	—	—	6.68			
Charleston |||.....	Tennessee.....	—	1.18	T.	—	.08	.60	.12	.11	—	.04	.04	1.36	—	—	—	—	—	.19	—	.04	.11	.77	.03	—	.35	—	—	—	—	—	2.84				
Chattanooga.....	Clarksville.....	.18	.05	—	.02	.34	1.30	—	—	1.02	.19	—	—	—	—	—	—	.19	—	.04	.11	.77	.03	—	—	—	—	—	—	—	—	—	1.18	5.81		
Clinton |||.....	Tennessee.....	.20	.20	.20	—	.03	.26	T.	—	—	.16	—	—	—	—	—	—	.22	—	—	.10	.51	T.	T.	.77	—	—	—	—	—	—	—	—	2.87		
Crossville.....	—	.07	.24	T.	.27	.06	.69	T.	—	.26	.70	1.20	.05	—	—	—	—	.25	T.	.01	.50	.03	.36	.02	1.51	.01	—	—	—	—	—	—	—	—	.40	6.63
Dandridge |||.....	—	.56	.80	—	—	.10	—	—	—	—	.40	—	—	—	—	—	—	.58	—	.28	.04	.12	T.	.26	.12	T.	—	—	—	—	—	—	—	.42	5.53	
Decatur.....	—	.77	.27	T.	—	1.20	.41	.01	T.	T.	.01	1.02	.02	—	—	—	—	.58	—	.13	—	.12	—	—	.68	—	—	—	—	—	—	—	—	3.72		
Dickson.....	Cumberland.....	1.20	—	T.	—	.13	.21	—	—	.08	—	—	—	—	—	—	—	.13	—	—	.12	—	—	—	—	—	—	—	—	—	—	—	5.22			
Dover.....	do.....	1.08	T.	T.	.28	1.28	.12	.42	1.22	—	.57	—	—	—	—	—	—	.21	—	—	1.23	1.10	—	—	.25	T.	T.	—	—	—	—	—	—	—	4.52	
Dunlap.....	Tennessee.....	.08	.07	—	1.20	.07	—	—	—	—	.10	.02	.11	—	—	—	—	.70	—	—	10	.03	—	—	.28	—	—	—	—	—	—	—	—	45	7.39	
Elizabethton |||.....	do.....	.25	.29	.06	.05	.60	.04	—	—	—	.41	.74	.10	.46	—	—	—	—	.15	—	.04	.42	.06	.06	.44	.24	.61	—	—	—	—	—	81	6.83		
Erasmus.....	Cumberland.....	1.16	.05	.20	.27	.06	.18	.01	T.	.32	.05	3.38	.04	—	—	—	—	.03	—	.29	.09	.06	—	T.	T.	.08	—	—	—	—	—	—	—	20	4.60	
Florence.....	do.....	2.10	T.	.96	.37	.94	.03	.15	T.	.15	.05	—	—	—	—	—	—	.04	—	.03	.15	—	.04	—	—	—	—	—	—	—	—	—	5.43			
Franklin.....	do.....	.88	.02	—	.29	.07	.25	.17	T.	.08	.25	—	—	—	—	—	—	.05	—	.78	T.	T.	T.	.14	—	T.	—	—	—	—	—	3.01				
Halls Hill |||.....	do.....	.87	1.03	—	.64	.48	.07	.35	.05	.17	.35	—	—	—	—	—	—	.10	—	.10	T.	.10	T.	.30	—	—	—	—	—	—	—	—	7.26			
Harriman.....	Tennessee.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.71		
Hohenwald.....	do.....	.55	.66	—	.05	1.04	—	.30	.10	.05	—	1.47	—	—	—	—	—	.21	—	—	1.23	1.10	—	—	—											

TABLE 2.—*Daily precipitation for July, 1912. District No. 3—Continued.*

* Precipitation included in that of the next measurement.

^a Separate dates of falls not recorded.
^b Precipitation for the 24 hours preceding.

Precipitation for the 24 hours ending on the morning when it is measured.
T Precipitation is less than 0.01 inch rain or melted snow.

T. Precipitation is less than 0.01 inch rain or melted snow

MONTHLY WEATHER REVIEW.

JULY, 1912

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 3.*

Date.	Pennsylvania.				West Virginia.										Ohio.													
	Greenville.		Pittsburgh.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.		Morgantown.		Parkersburg.		Wheeling.		Canton.		Cincinnati.		Columbus.		Dayton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	83	65	78	58	80	65	73	60	76	60	80	63	80	67	78	69	81	66	90	64	81	55	82	68	82	63	83	60
2....	87	58	86	65	85	63	78	60	81	54	90	60	85	65	86	69	85	65	92	62	86	64	85	68	82	66	82	66
3....	89	61	87	70	87	66	80	60	86	58	93	63	87	67	87	65	85	67	91	65	86	65	84	70	80	67	82	68
4....	89	55	86	68	83	66	83	58	84	60	91	65	83	68	89	66	85	68	93	66	86	65	83	69	82	67	79	69
5....	89	53	86	68	87	67	82	61	82	61	90	64	89	67	83	65	85	68	92	65	91	64	86	68	87	67	87	66
6....	88	55	87	70	90	67	82	58	85	57	92	63	86	67	91	66	87	68	91	65	90	67	80	71	85	68	83	69
7....	89	50	89	70	91	66	83	58	87	58	93	65	90	68	91	66	90	69	95	64	91	64	90	70	89	71	86	68
8....	88	53	91	73	88	66	84	57	90	61	94	64	88	68	93	67	91	71	95	67	92	66	88	70	91	71	85	70
9....	91	54	89	72	90	68	84	60	88	60	92	65	89	68	93	66	89	69	91	67	91	67	89	72	90	69	80	69
10....	91	58	87	66	86	68	83	60	85	65	90	66	83	69	88	69	89	69	92	68	90	69	88	68	86	68	78	68
11....	85	58	82	65	86	67	81	60	82	62	88	65	85	68	85	68	84	65	89	69	84	67	85	70	83	67	86	68
12....	86	51	83	65	84	66	84	59	84	58	90	66	86	66	84	59	85	63	91	63	87	65	89	68	87	64	86	66
13....	88	46	86	66	90	71	86	60	88	60	93	68	89	69	90	62	89	66	91	62	87	60	92	71	90	70	88	70
14....	90	59	89	73	94	68	89	61	91	62	96	66	93	71	91	61	92	73	92	65	92	60	94	75	92	70	92	70
15....	94	66	91	73	94	68	87	62	89	63	97	66	94	71	93	69	94	71	96	70	92	70	91	73	95	70	90	69
16....	83	59	84	70	92	70	87	61	87	64	95	68	90	69	91	67	90	70	87	69	82	59	87	69	84	63	83	63
17....	89	62	86	69	92	70	86	60	85	65	90	66	90	69	91	62	88	71	82	67	88	62	90	70	84	68	85	68
18....	87	65	81	64	88	70	85	64	73	65	90	66	81	70	84	68	83	67	87	70	88	62	86	66	87	61	87	62
19....	72	51	71	55	78	67	77	65	73	53	90	60	78	62	81	57	75	60	79	58	74	50	75	59	73	56	75	56
20....	72	51	74	61	88	60	79	59	79	51	87	57	88	60	83	59	86	61	79	58	73	55	88	65	84	60	85	62
21....	79	57	74	66	88	70	85	62	82	65	89	67	86	63	80	67	85	69	80	60	76	61	84	73	82	69	80	69
22....	81	61	79	64	84	70	80	65	85	68	85	72	79	73	80	69	84	59	82	59	84	57	81	65	83	68	80	
23....	79	51	77	60	86	63	82	64	81	58	88	61	86	65	81	56	85	64	84	58	83	53	89	67	85	62	85	63
24....	82	60	78	63	91	68	85	61	83	59	93	65	92	67	83	64	92	69	87	60	86	63	96	74	95	70	94	72
25....	81	60	79	62	91	66	85	64	81	63	86	68	86	70	81	64	84	70	87	67	82	65	89	70	85	68	88	67
26....	73	60	72	62	85	66	80	60	70	62	86	66	75	67	79	64	75	65	76	65	72	59	80	62	75	61	76	60
27....	77	46	76	56	78	65	81	61	75	54	84	58	81	63	77	55	78	61	83	54	80	50	84	64	82	60	84	64
28....	79	47	80	58	86	64	82	62	81	50	89	57	85	59	82	55	84	60	87	58	86	55	87	64	84	63	83	65
29....	76	64	77	61	84	59	82	50	77	61	84	65	85	67	79	68	82	66	81	62	79	62	86	71	85	63	87	67
30....	75	50	75	59	83	62	79	60	73	54	81	57	81	62	76	75	54	79	59	80	53	78	54	84	65	80	60	81
31....	82	52	72	58	79	61	76	54	74	56	80	65	78	68	76	57	76	61	82	58	76	57	77	65	74	58	74	58
Mns.	83.7	56.1	81.7	64.8	86.7	66.2	82.3	60.2	81.6	50.3	89.1	64.0	85.6	66.6	84.7	63.5	84.9	66.5	87.4	63.2	84.0	61.1	86.2	68.6	84.4	65.4	84.0	65.8

Date.	Ohio.				Indiana.										Kentucky.													
	Marion.		Waverly.		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.		Philo, Ill.		Beattyville.		Bowling Green.		Earlington.		Greensburg.		Lexington.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	87	57	82	60	85	62	82	68	82	64	85	56	83	65	86	68	83	64	84	65	86	62	85	64	79	61	82	65
2....	85	65	82	65	83	63	82	68	80	66	83	67	80	65	79	67	83	65	83	63	86	63	85	66	80	64	77	66
3....	85	67	84	64	81	66	85	68	75	67	81	65	75	66	77	67	78	68	84	62	88	66	88	65	84	74	84	67
4....	85	65	82	64	76	68	86	67	80	68	85	67	86	68	82	68	86	63	85	65	79	66	87	68	88	64	76	67
5....	93	65	86	67	88	65	87	73	87	67	90	63	88	67	86	68	89	70	86	65	87	68	90	70	84	61	82	67
6....	89	67	84	69	88	68	83	71	86	68	86	69	84	66	86	65	85	70	88	65	88	68	83	70	78	66	81	69
7....	92	69	88	68	88	69	81	71	80	70	84	70	86	70	88	71	85	70	90	65	86	65	83	70	78	63	87	68
8....	91	68	89	68	85	70	84	67	77	70	81	66	85	69	80	68	83	69	81	64	87	65	86	62	86	62	85	69
9....	93	67	88	67	90	67	88																					

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 3—Continued.*

Date.	Kentucky.					Tennessee.										Decatur, Ala. §§	Asheville, N. C.	Virginia.										
	Louisville.		Mays- ville. §§	Williams- burg. §§		Chatta- nooga.		Johnson City. §§		Knoxville.		Nashville.		Palmetto.		Sparta.		Waynes- boro.										
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
1....	86	69	82	64	83	63	83	64	89	63	83	66	79	65	83	66	80	63	84	60	86	65	79	63	66	61	70	60
2....	82	68	86	62	87	65	79	67	85	64	80	66	82	68	81	68	83	65	87	66	86	66	75	61	75	60	72	59
3....	87	70	90	64	84	64	82	68	85	64	83	66	84	67	83	68	84	66	87	66	86	66	78	64	81	57	82	60
4....	78	69	86	66	82	64	82	67	84	65	82	67	79	67	84	69	79	66	89	69	80	70	81	62	80	60	82	60
5....	88	69	90	66	78	61	82	67	79	66	80	69	80	70	79	68	85	67	82	67	90	70	72	65	75	64	72	63
6....	84	70	88	68	86	67	80	67	90	63	84	68	80	70	84	67	83	69	85	67	81	70	78	63	78	53	80	57
7....	88	69	93	65	88	60	87	65	89	62	87	66	84	68	80	67	89	63	85	68	88	67	79	65	82	53	83	58
8....	90	66	92	66	91	64	84	69	85	61	87	66	80	70	78	68	86	64	85	66	90	68	81	62	83	52	84	60
9....	91	69	92	65	88	65	84	70	84	65	86	69	84	67	84	67	84	65	87	65	86	67	81	63	82	63	80	61
10....	89	73	91	67	85	65	84	68	86	64	86	68	83	68	84	68	86	67	87	67	86	68	81	64	85	64	83	63
11....	86	71	87	65	86	65	81	68	89	66	80	66	83	68	77	67	82	68	87	68	89	70	82	63	80	62	80	62
12....	91	72	89	63	88	64	83	67	86	64	85	68	86	68	84	65	86	66	88	64	89	67	81	63	84	60	83	62
13....	93	73	93	66	88	65	88	68	89	65	90	70	91	69	89	70	90	66	92	65	91	74	81	62	84	60	88	60
14....	95	75	97	67	95	66	90	70	92	65	92	70	93	72	91	70	92	68	93	66	90	71	84	65	86	63	88	63
15....	94	68	98	69	93	68	88	71	94	66	90	70	92	70	90	72	87	67	93	68	92	72	83	64	82	61	86	65
16....	91	70	94	68	92	66	84	69	92	65	89	68	89	70	87	69	91	66	89	68	89	71	79	65	86	61	86	62
17....	90	73	90	69	95	66	84	73	91	66	89	69	86	72	85	71	90	70	83	68	84	72	77	68	85	61	84	61
18....	88	71	88	67	81	70	88	71	86	71	83	71	83	71	86	71	83	71	87	67	87	72	79	67	83	64	79	64
19....	80	62	81	59	59	68	83	71	85	69	84	71	84	70	84	71	86	69	86	70	88	73	79	66	80	65	80	66
20....	91	65	93	56	96	65	90	72	82	70	89	71	87	70	86	72	89	69	87	71	90	72	78	68	71	62	67	60
21....	86	73	88	61	91	67	91	72	91	69	90	74	91	76	89	70	91	68	92	70	94	72	87	67	86	65	83	64
22....	87	72	89	70	90	63	90	74	88	61	89	72	89	77	90	72	88	71	93	70	90	74	85	67	80	70	80	66
23....	93	70	91	63	91	70	91	72	90	65	88	72	91	74	90	75	89	70	94	69	94	74	85	65	83	59	83	64
24....	94	74	97	65	92	70	90	72	90	68	91	73	91	75	90	74	91	70	93	73	95	76	87	65	84	60	83	62
25....	91	74	91	67	90	74	93	77	89	69	92	71	92	75	94	75	90	74	95	73	96	75	84	66	83	65	80	65
26....	83	66	80	62	78	63	85	60	82	64	83	66	82	71	84	65	82	64	85	64	87	70	77	63	75	66	70	62
27....	84	64	87	60	87	58	83	66	83	56	83	61	84	65	83	59	83	57	83	58	86	64	79	55	78	51	76	55
28....	91	66	91	57	88	64	89	64	82	57	88	64	89	64	87	60	89	59	87	57	92	63	86	58	83	50	81	52
29....	90	71	90	67	90	60	89	67	88	62	89	69	91	72	89	66	90	65	90	64	91	68	84	61	83	60	79	62
30....	86	68	86	59	83	60	86	68	84	66	86	68	87	68	88	63	87	62	87	60	89	68	79	64	78	60	76	58
31....	82	66	82	60	83	60	86	64	81	57	82	63	85	63	89	66	87	62	90	64	96	67	74	56	80	51	79	56
Mns.	88.0	69.5	89.4	64.3	87.6	64.8	85.5	68.9	86.8	64.5	86.1	68.3	85.8	69.8	85.5	68.4	86.5	66.4	87.9	66.4	89.3	69.7	80.5	63.5	80.7	60.1	80.0	61.0

^{a, b, c, etc.}, indicate respectively 1, 2, 3, etc., days missing from the record.

§ § Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.